IS SINGLE SERVE WASTEFUL?

LCA (Life-Cycle Assessment) studies show that the carbon footprint of a cup of coffee is greatly impacted by how people prepare it at home. Factors such as the energy efficiency of a machine, how long a hotplate is left running and whether any coffee is wasted all have a big impact on the results.

When making filter coffee, the environmental impact can vary depending on how it is prepared. For example, people tend to make too much coffee, keep it warm for too long and end up throwing the excess away. Coffee in a foil pouch quickly loses freshness once it has been opened and ends up in the bin.

Although a portioned coffee system like Nespresso uses single packaging, it optimizes resources through precision-consumption. Our system uses only the exact amount of coffee beans, water and energy needed to brew a single cup, saving resources, reducing waste and minimizing the carbon footprint with consistent results, time after time.

LIFE-CYCLE ASSESSMENT
The carbon footprint of a cup of coffee

We evaluate the environmental impact of a cup of Nespresso, and find ways to reduce it.

Life-Cycle Assessment studies allow us to analyse the environmental impact of each step of the coffee’s journey, from the coffee on the tree to the last sip in your cup.

WE'RE REDUCING THE FOOTPRINT OF NESPRESSO, CUP BY CUP

In 2009, we set a goal of cutting the carbon footprint of a cup of Nespresso by 28% by 2020. We’re doing this by:

Improving the efficiency of our machines

Powering our factories and boutiques with green energy

Helping more consumers to recycle their capsules

Sourcing our coffee through the Nespresso AAA Sustainable Quality™ Programme

Sourcing ASI-certified aluminium (from 2019)

Using recycled plastics in Nespresso machines

WHERE DOES YOUR NESPRESSO’S CARBON FOOTPRINT COME FROM?

<table>
<thead>
<tr>
<th>Source</th>
<th>Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>End-of-life</td>
<td>47%</td>
</tr>
<tr>
<td>Consumer use</td>
<td>18%</td>
</tr>
<tr>
<td>Distribution</td>
<td>19%</td>
</tr>
<tr>
<td>Roasting, grinding and production</td>
<td>8%</td>
</tr>
<tr>
<td>Production of packaging</td>
<td>5%</td>
</tr>
<tr>
<td>Production of packaging</td>
<td>3%</td>
</tr>
<tr>
<td>Coffee farming</td>
<td>5%</td>
</tr>
</tbody>
</table>

Life-Cycle Assessment of a cup of Nespresso Expressed in % CO2eq per cup (Quantis, LCA 2013)

IS SINGLE SERVE WASTEFUL?

Filter coffee machines often use more coffee, water and energy than needed, resulting in waste.

Using portioned coffee in a precision-consumption system can minimise waste.
WHAT DO THE STUDIES SHOW?

There have been several LCAs that compare single-serve systems to other methods of making coffee. These studies rely on a number of factors, such as whether excess coffee is made (and wasted) and whether capsules used in single-serve systems are recycled. Here are a selection of studies and their findings.

Study published by Quantis in the Journal of Cleaner Production

- A Soluble coffee
- B Filter coffee with no waste
- C Filter coffee with 30% waste
- D Single-serve using a plastic capsule


Comparative LCA of Nespresso and three generic competitor capsules

- A Nespresso capsule (aluminium)
- B Generic capsule made from oil-based plastic with an overwrap
- C Generic capsule made with bio-based biodegradable plastic V1
- D Generic capsule made with bio-based biodegradable plastic V2


Study conducted in North America by Quantis for the Packaging Consortium

- A Single-serve system with a plastic capsule and energy-efficient machine
- B Single-serve system with a plastic capsule and machine that is not energy-efficient
- C Filter coffee with no waste, where the hot plate is running for 37 minutes
- D Filter coffee with 50% waste, where the hot plate is running for 37 minutes
- E Filter coffee with 30% of coffee grounds thrown away (loss of freshness), where the hot plate is running for 37 minutes
- F Filter coffee with 30% of coffee grounds thrown away (loss of freshness), 50% waste and where the hot plate is running for 2 hours

Source: [www.pac.ca/assets/pac0680-full-lca.pdf](www.pac.ca/assets/pac0680-full-lca.pdf)

Environmental impact of the Nespresso system:

A lifecycle assessment, conducted by Quantis for Nespresso in Germany

- A Efficient Full automat and low coffee dosage (espresso)
- B Inefficient full automat and high coffee dosage (espresso)
- C Nespresso, capsule not recycled (espresso)
- D Nespresso, capsule recycled (espresso)
- E Efficient filter machine, low coffee dosage, no waste (lungo)
- F Inefficient filter machine, high coffee dosage, 25% waste (lungo)
- G Nespresso, capsule not recycled (lungo)
- H Nespresso, capsule recycled (lungo)

Source: [www.nespresso.com/de/de/thepositivecup/studien](www.nespresso.com/de/de/thepositivecup/studien)